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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/518,959	12/17/2004	Chikafumi Yokoyama	57993US005	5068
32692 7590 07/05/2007 3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER BUTLER, PATRICK	
			ART UNIT 1732	PAPER NUMBER
			NOTIFICATION DATE 07/05/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/518,959	Applicant(s) YOKOYAMA ET AL.	
	Examiner Patrick Butler	Art Unit 1732	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) 1-8 and 13-17 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 9-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20070123</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Newly submitted claims 13-17 are directed to a method of making a mold, which is an invention that does not relate to a single general inventive concept with non-elected Group I, drawn to a flexible mold, claims 1-8, and elected Group II, drawn to a method of making a microstructure using a flexible mod, claim(s) 9-12, under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: The special technical feature shared by the inventions is the flexible mold, which is obvious over Yokoyama et al. (US Patent App. Pub. No. 2002/0007000 A1) in view of Teijin LTD (JP 59045107A), Jeram et al. (US Patent No. 4,340,709), and Audsley (US Patent No. 4,929,403) as described in the 35 USC 103 rejection below.

Since applicant has received an action on the merits for the originally presented invention, this invention has been constructively elected by original presentation for prosecution on the merits. Accordingly, claims 13-17 are withdrawn from consideration as being directed to a non-elected invention. See 37 CFR 1.142(b) and MPEP § 821.03.

Information Disclosure Statement

The information disclosure statement filed 23 January 2007 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the

Art Unit: 1732

application file, but the information referred to therein has not been considered.

Specifically, no copy is provided of the following document:

WO | 2004/007166 | 19.07.2001

Specifically, a legible copy is not available of the following document:

Dominghaus Hans: "Die Kunststoffe und ihre Eigenschaften" 1992, VDI Verlag, Dusseldorf 1992, 1 page

As no copy or no legible copy of the references is available, it is not possible to review the documents.

It appears that WO 01 52299 A was mistakenly cited as WO 2004/007166 given that the cited publication date (19 July 2001) was the publication date of WO 01 52299 A. Since WO 01 52299 A was able to be obtained and was cited on the International Search Report for the PCT application that 10/518,959 claims priority to, WO 01 52299 A has been considered.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 9-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to Claim 9, the term "hygroscopic" in lines 4 and 7 of the claim is unclear in that it conflicts with "containing moisture to saturation" in line 5 of the claim. This is unclear because the support would not be able to absorb moisture and thus be hygroscopic if it is completely saturated. Claims 10-12 are rejected via their

Art Unit: 1732

dependency. For purposes of examination, the claim is interpreted similar to Claim 15 in that the support is hygroscopic before being saturated.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokoyama et al. (US Patent App. Pub. No. 2002/0007000 A1) in view of Teijin LTD (JP 59045107A), Jeram et al. (US Patent No. 4,340,709), and Audsley (US Patent No. 4,929,403).

Regarding claims 9, Yokoyama et al. teach a method of manufacturing a microstructure having a projection pattern having a predetermined shape and a predetermined size on a surface of a substrate (fig 2d), comprising the steps of:

Art Unit: 1732

preparing a flexible mold comprising a support made of a material having a tensile strength and a molding layer disposed on said support and having a groove pattern having a shape and a size corresponding to those of said projection pattern on a surface (fig 2b & par 0035) thereof; arranging a curable molding material between said substrate and a molding layer of said mold and filling said molding material into said groove pattern of said mold (fig 2c); curing said molding material and forming a microstructure having said substrate and said projection pattern integrally bonded to said substrate (fig 2c & 2d); and releasing said microstructure from said mold (fig 2e).

However, Yokoyama et al. do not teach that the support material has a tensile strength of at least 5 kg/mm^2 and contain moisture to saturation at a temperature and a relative humidity at the time of use by a humidity absorption treatment applied in advance.

Nevertheless, Teijin LTD teaches saturating ethylene terephthalate with saturated/superheated steam (abstract). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Yokoyama et al's method of manufacturing a microstructure to include a step of humidity absorption treatment/steam treatment. One would have been motivated to do so to prevent the polyester from having increased water content on storage and drying (abstract). As the support is able to have increased water content before the treatment, it is necessarily hygroscopic before the treatment (see Teijin, abstract).

As to the tensile strength of the support material, one having ordinary skill in the art would use silicon compositions to make flexible molds because it is one of many

Art Unit: 1732

commonly used materials used as taught by in Audsley (col. 1 lines 26-28). Jeram et al. teach that silicon compositions could be cured to have a tensile strength of 770 p.s.i., which is at least 5 kg/mm² (col. 12 lines 35-40). Therefore it would have been obvious to one having ordinary skill in the art at the time of invention to modify Yokoyama et al's method of manufacturing a microstructure to include a flexible mold material having a tensile strength of at least 5 kg/mm² as taught by Audsley and Jeram. One would have been motivated to do so to create a mold with desired material properties such as flexibility/stretch-ability.

Regarding claim 10, Yokoyama et al. teach molding material is photo-curable material (fig 2c).

Regarding claim 11, Yokoyama et al. teach microstructure is a back plate for a plasma display panel (par 0019).

Regarding claim 12, Yokoyama et al. teach a step of independently arranging a set of address electrodes substantially in parallel with each other while keeping a predetermined gap between them on a surface of said substrate (fig 1, 10 & par 0018).

Response to Arguments

Applicant's arguments filed 23 January 2007 and 09 April 2007 have been fully considered but they are not persuasive.

Applicant argues with respect to the Information Disclosure Statement filed 12 September 2006. Applicant's arguments appear to be on the grounds that:

- 1) The references are not required because they were cited in the International Search Report.

Art Unit: 1732

2) Regardless, the references are submitted for consideration with the IDS of 23 January 2007.

Applicant argues with respect to the 35 USC 103 rejections. Applicant's arguments appear to be on the grounds that:

3) Since Claim 9 now recites "hygroscopic support," the support is hygroscopic before, during, and after the support is employed in the manufacture of the mold. Since the polyester of Teijin is heated to be no longer hygroscopic, the material would no longer be hygroscopic.

The Applicant's arguments are addressed as follows:

1 and 2) References were not received from the International Search Report (see Notice of Acceptance of Application Under 35 U.S.C. 371 and 37 CFR 1.495 of 12 May 2005 and the DO/EO Worksheet/Miscellaneous Internal Document of 17 December 2004). Thus, the references have not been considered as described above in the Information Disclosure Statement section:

Specifically, no copy is provided of the following document:

WO | 2004/007166 | 19.07.2001

Specifically, a legible copy is not available of the following document:

Domininghaus Hans: "Die Kunststoffe und ihre Eigenschaften" 1992, VDI Verlag, Dusseldorf 1992, 1 page

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Art Unit: 1732

WO 01 52299 A. Since WO 01 52299 A was able to be obtained and was cited on the International Search Report for the PCT application that 10/518,959 claims priority to, WO 01 52299 A has been considered.

3) The lack of clarity of "hygroscopic" when used with "containing moisture to saturation" is discussed in the 35 USC 112 Rejections section above. Thus, *in* response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., the support being hygroscopic and thus being able to contain more moisture after being formed) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Butler whose telephone number is (571) 272-8517. The examiner can normally be reached on Mon.-Thu. 7:30 a.m.-5 p.m. and alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christina Johnson can be reached on (571) 272-1176. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Patrick Butler
Assistant Examiner
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CHRISTINA JOHNSON
SUPERVISORY PATENT EXAMINER
6/24/07